Remarks

Preliminary Remarks

Claims 26-65 are pending in the application. Claims 1-25 have been cancelled. The issues in the application are as follows:

- Claims 1-2, 4-5, 8, 10-13, 15-16, 20 and 22-23 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 4,874,171 to Ezaki et al. (hereafter, "Ezaki").

- Claims 1-4, 15-17 and 24-25 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 5,121,918 to Teramoto (hereafter, "Teramoto").

- Claims 1-2, 5-7, 15-16, 18, 22 and 24 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,840,380 to Kajita et al. (hereafter, "Kajita").

- Claims 5-9, 18-19 and 22-23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Teramoto in view of Kajita.

- Claims 10-11, and 20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Teramoto in view of U.S. Patent No. 3,871,649 to Kilshaw (hereafter, "Kilshaw").

- Claims 21 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Teramoto in view of Kajita as applied to claims 5-9, 18-19 and 22-23, and in further view of Kilshaw.

- Claims 14 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Teramoto in view of Kajita as applied to claims 5-9, 18-19 and 22-23, and in further view of Ezaki.

- New claims 26-65 are added.

Claims 1-25 have been cancelled, and therefore the rejection of those claims is now moot. Support for new claims 26-65 is found in the original application as follows: Support for claims 26-39 is provided at least by claims 1-14 (as amended), and Tables I and II, pages 10 -11. Support for claims 40-53 is provided at least by claims 15-25 (as amended), Tables I and II, pages 10 -11, page 4 lines 6-7, and lines 23-24. Support for claims 54-65 is provided at least by Tables I and II, pages 10 -11;

page 3, lines 14-15; page 3, line 23 to page 4 line 4; page 4, lines 5-25; page 8, lines 23-24. No new matter has been added.

The Applicant contends that claims 26-65 are allowable, for at least the following reasons:

Preliminary comments

The Remarks and arguments, as well as the cited case law, put forth in the Response filed on January 23, 2001 to the Office action of September 20, 2000 are incorporated herein by reference.

The Applicant again submits that quite small differences between one golf club and another can have a significant effect on a golfer's ability to hit a golf ball and achieve a desired distance and accuracy. Beyond merely designing a single club so that it achieves a desired result, the greater goal is to design a set of golf clubs having features to improve performance that allow a golfer to use a consistent swing regardless of the club being used, yet that still achieve the desired performance results. Given the large number of factors which can be varied, and the range of variability, the choice of a particular set of dimensions and variances for a set of golf clubs is virtually infinite. Any resulting selection of design parameters is more than a mere design selection, and involves a considerable amount of theoretical application and testing to verify that the resultant club or set of clubs achieves the desired results. The large number of issued patents claiming small differences in golf club designs, both in individual clubs and in sets of clubs, attests to the non-obviousness of these differences. The Applicant believes that the set of parameters he has identified by virtue of the claims in the instant patent application result in a novel, non-obvious set of golf clubs which achieve a particular beneficial result for golfers using the club set. Against this background, the Applicant again respectfully requests that the Examiner please consider carefully the following arguments in favor of allowing the claims as presented.

(Continued on next page.)

Rejection of claims under 35 U.S.C. § 102.

As a starting point, the PTO and the Federal Circuit provide that §102 anticipation requires that each and every element of the claimed invention be disclosed in a single prior art reference. (In re Spada, 911 F.2d 705, 15 USPQ2d 1655 (Fed. Cir. 1990)). The corollary of this rule is that the absence from a cited §102 reference of any claimed element negates the anticipation. (Kloster Speedsteel AB, et al v. Crucible, Inc., et al, 793 F.2d 1565, 230 USPQ 81 (Fed. Cir. 1986)). Furthermore, "[a]nticipation requires that all of the elements and limitations of the claims are found within a single prior art reference." (Scripps Clinic and Research Found. v Genetech. Inc., 927 F.2d 1565, 1576, 18 U.S.P.Q.2d 1001, 1010 (Fed. Cir. 1991 (Emphasis added)). Moreover, the PTO and the Federal Circuit provide that §102 anticipation requires that there must be no difference between the claimed invention and the reference disclosure. (Scripps Clinic and Research Found. v. Genetech, Inc., id. (Emphasis added)).

Accordingly, if the Applicant can demonstrate that any one element or limitation in the claims is not disclosed by Ezaki, Teramoto or Kajita, then the respective claims are not anticipated.

Rejection of Claims under 35 U.S.C. § 103(a)

MPEP 706.02(j) priovides:

> "[t]o establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the cited references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, <u>the prior art reference</u> (or references when combined) **must** teach or suggest **all** the claim limitations. <u>The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure.</u>" (Emphasis added.)

Accordingly, if the Applicant can demonstrate that the cited references fail to meet the requirements of MPEP 706.02(j), then the Applicant's claims are non-obvious over the cited art and should be allowed.

In the following arguments, the Applicant will focus in particular on new independent claims 26, 40 and 54, as the Applicant believes those claims to be allowable over Ezaki, Teramoto and Kajita. It is axiomatic that any dependent claim which depends from an allowable base claim is also allowable, and therefore the Applicant does not believe it is necessary to present arguments in favor of each and every dependent claim. The fact that Applicant has not presented herein specific arguments in favor of the allowability of each and every dependent claim which depends from arguably allowable independent claim is not to be considered as an admission that the dependent claims are only allowable as a result of their dependence on an allowable base claim, but rather as a matter of efficiency in responding to the instant Office action. The Applicant makes no concession nor admission that any dependent claim is allowable based solely on its dependence from an allowable base claim.

Claim 26

The Applicant contends that new independent claim 26, and claims 27-39 that depend therefrom, are not anticipated by, or obvious in light of, Ezaki, Teramoto and/or Kajita.

Claim 26 recites:

A set of golf clubs comprising a plurality of adjacent consecutively numbered irons, wherein between any two adjacent consecutively numbered irons of the set, a first iron has a club length of at least 0.6 inches longer than a second adjacent iron and the second adjacent iron has a lie angle of at least 0.6 degrees greater than the first iron and wherein the second adjacent iron has a club head weight at least 8 grams greater than the first iron.

Claim 26 requires that for a set of golf clubs, "a first iron has a club length of at least 0.6 inches longer than a second adjacent iron and the second adjacent iron has a lie angle of at least 0.6 degrees greater than the first iron" and "the second adjacent iron has a club head weight at least 8 grams greater than the first iron", and further

that the relationship for all three parameters exists "between <u>any two</u> adjacent consecutively numbered irons of the set."

Table 1 below compares Ezaki, Teramoto and Kajita with applicants claim 26:

Table 1: Claim 26 vs. Ezaki, Teramoto and Kajita

	Parameters as Between Irons							
	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9
Club Length Decrease (In sequential order)								
Teramoto 1	**0.5 in**	**0.5 in**	0.66 in	**0.33 in**	1.66 in	1.5 in	**0.5 in**	**0.5 in**
Teramoto 2	**0.5 in**	0.75 in	0.75 in	0.75 in	**0.5 in**	**0.5 in**	**0.5 in**	**0.5 in**
Teramoto 3	0.75 in	0.75 in	0.83 in	0.83 in	0.83 in	**0.5 in**	**0.5 in**	**0.5 in**
Ezaki	0.78 in	0.78 in	0.78 in	0.78 in	0.78 in	0.78 in	0.78 in	0.78 in
Kajita *	n/a	n/a	n/a	0.78 in	0.78 in	0.78 in	0.78 in	0.78 in
Claim 26	**≥0.6 in**	**≥0.6 in**	**≥0.6 in**	**≥0.6 in**	**≥0.6 in**	**≥0.6 in**	**≥0.6 in**	**≥0.6 in**
Lie Angle Increment								
Teramoto	Not Specified							
Ezaki	1°	**0.5°**	**0.5°**	**0.5°**	**0.5°**	**0.5°**	**0.5°**	1°
Kajita *	Not Specified							
Claim 26	**> .6°**	**> .6°**	**> .6°**	**> .6°**	**> .6°**	**> .6°**	**> .6°**	**> .6°**
Head Weight Increment								
Teramoto	Not Specified							
Ezaki	**7 g**	**7 g**	**7 g**	11 g	8.5 g	**7.5 g**	8.5 g	9.5 g
Kajita	n/a	n/a	n/a	n/a	13 g	n/a	n/a	14 g
Claim 26	**≥8 g**	**≥8 g**	**≥8 g**	**≥8 g**	**≥8 g**	**≥8 g**	**≥8 g**	**≥8 g**

Table 1 above includes the teaching of Teramoto, Ezaki and Kajita. The entries in Table 1 for Ezaki are based on the disclosure of Ezaki at the Table illustrated at cols. 5-6, lines 5-12. The entries in Table 1 for Kajita are based on the disclosure of Kajita at Table I, col. 2, lines 55-65, col. 3, lines 35-39 and col. 5, lines 5-12 (Kajita*). The entries in Table 1 for Teramoto are based on the disclosure of Teramoto at Table, col. 4, lines 38-50.

As to Ezaki, it can clearly be observed from the comparison provided in Table 1 that Ezaki never discloses, teaches, or suggests a set of irons where the requirements of claim 26 for club length, lie angle and head weight relationships all exist "between any two adjacent consecutively numbered irons of the set." In fact, not only does Ezaki not teach all the limitations of claim 26, but Ezaki specifically discloses a completely different relationship for club head weight <u>and</u> lie angle between sequential adjacent irons.

As can be seen from Table 1 above, claim 26 requires that "between any two adjacent consecutively numbered irons of the set," "a first iron has a club length of at least 0.6 inches longer than a second adjacent iron and the second adjacent iron has a lie angle of at least 0.6 degrees greater than the first iron," and "the second adjacent iron has a club head weight at least 8 grams greater than the first iron," which is not disclosed by Ezaki. In fact, Ezaki teaches a different head weight and lie angle relationship as between <u>any two adjacent irons</u> than that required by claim 26. As identified in **bold** in Table 1, Ezaki specifically discloses that between irons 1-2, 2-3, 3-4, and 6-7 the club head weight difference is <u>**less**</u> than that required by claim 26. Additionally, as identified in **bold** in Table 1, Ezaki specifically discloses that between irons 2-3, 3-4, 4-5, 5-6, 6-7 and 7-8 the lie angle difference is <u>**less**</u> than that required by claim 26. Therefore, it is impossible, based on the disclosure of Ezaki, to provide both "a lie angle of at least 0.6 degrees" <u>***and***</u> "a club head weight at least 8 grams greater" as "between ***any*** two adjacent consecutively numbered irons of the set."

Applicant therefore contends that claim 26, and claims 27-39 which depend therefrom, recite novel limitations not found within Ezaki, and therefore that Ezaki cannot anticipate Claim 26. Furthermore, for the reasons stated above with reference to claim 26, Ezaki does not disclose, teach or even suggest all of the limitations of claim 26. Therefore, Ezaki does not render claim 26 obvious under 35 U.S.C. § 103(a).

Similarly, it is clear from the comparison provided in Table 1 that Kajita also never discloses, teaches, or suggests a set of irons where the above requirements for club length, lie angle and head weight relationships exist "between any two adjacent consecutively numbered irons of the set." In fact, not only does Kajita not teach all the limitations of claim 26, but Kajita specifically discloses a different relationship than

that required by claim 26 for club head weight between sequential adjacent irons and fails to disclose any relationship for lie angle whatsoever. Furthermore, Kajita at Table I, col. 5, lines 5-1 and at Table I, col. 2, lines 55-65 describes a set of golf clubs where the first three clubs are woods, not irons, which is very different from claim 26, which requires "a set of irons."

As recited above, claim 26 requires that "between any two adjacent consecutively numbered irons of the set," "a first iron has a club length of at least 0.6 inches longer than a second adjacent iron and the second adjacent iron has a lie angle of at least 0.6 degrees greater than the first iron," and "the second adjacent iron has a club head weight at least 8 grams greater than the first iron," which is not disclosed by Kajita. Furthermore, Kajita actually teaches a different head weight relationship as between any two adjacent irons.

As identified in **bold** in Table 2, Kajita specifically discloses that between clubs 1-2, and 2-3 the club head weight difference is <u>less</u> than that required by claim 26. Furthermore, Kajita fails to disclose any required relationship as to a difference in lie angle between any two adjacent clubs let alone that between a first and a second adjacent iron "the second adjacent iron has a lie angle of at least 0.6 degrees greater than the first iron." Therefore, it is impossible, based on the disclosure of Kajita, to provide all of the required limitations of claim 26 including the requirement that "between any two adjacent consecutively numbered irons of the set," "the second adjacent iron has a lie angle of at least 0.6 degrees greater than the first iron" and "a club head weight at least 8 grams greater than the first iron."

Accordingly, the Applicant contends that claim 26, and claims 27-39 which depend therefrom, recite novel limitations not found within Kajita and therefore that Kajita cannot anticipate Claim 26. Furthermore, for the above stated reasons with reference to claim 26, Kajita does not disclose, teach or even suggest all of the limitations of claim 26. Therefore, Kajita does not render claim 26 obvious under 35 U.S.C. § 103(a).

Teramoto also fails to disclose, teach or suggest a set of irons where the above requirements for club length, lie angle and head weight relationships exist "between any two adjacent consecutively numbered irons of the set." In fact, not only does Teramato not teach all the limitations of claim 26, but Teramoto specifically discloses

a different relationship for club length between sequential adjacent irons and never discloses lie angle or head weight whatsoever.

Again, as recited above, claim 26 requires that "between any two adjacent consecutively numbered irons of the set," "a first iron has a club length of at least 0.6 inches longer than a second adjacent iron and the second adjacent iron has a lie angle of at least 0.6 degrees greater than the first iron," and "the second adjacent iron has a club head weight at least 8 grams greater than the first iron," which is not disclosed by Teramoto. Furthermore, Teramoto teaches a different club length relationship as between any two adjacent irons than the relationship required by claim 26.

As shown in **bold** in Table 1, Teramoto specifically discloses in a first embodiment that as between clubs 1-2, 2-3 7-8 and 8-9 the club length difference is **less** than that required by claim 26. In a second embodiment, Teramoto discloses that as between clubs 1-2, 5-6, 6-7, 7-8 and 9-10, the club length difference is **less** than that required by claim 26. In a third embodiment, Teramoto discloses that as between clubs 6-7, 7-8 and 8-9 the club length difference is **less** than that required by claim 26. Teramoto never discloses head weight or lie angle as parameters or any relationships for head weight or lie angle between sequential adjacent clubs. Therefore, as illustrated in Table 1, none of Teramoto's three embodiments disclose that "between any two adjacent consecutively numbered irons of the set," "a first iron has a club length of at least 0.6 inches longer than a second adjacent iron <u>and</u> the second adjacent iron has a lie angle of at least 0.6 degrees greater than the first iron" <u>and</u> "the second adjacent iron has a club head weight at least 8 grams greater than the first iron," as required by claim 26.

It is therefore impossible, based upon the disclosure of Teramoto, to provide as "between any two adjacent consecutively numbered irons of the set," "a first iron has a club length of at least 0.6 inches longer than a second adjacent iron" and either the limitation that "the second adjacent iron has a lie angle of at least 0.6 degrees greater than the first iron" and/or the limitation that "the second adjacent iron has a club head weight at least 8 grams greater than the first iron."

A 35 U.S.C. § 102 rejection of claim 26 in light of Ezaki, Teramoto or Kajita is thus unsupportable in view of the requirements for such a rejection as described

above. Furthermore, for the reasons stated above with reference to claim 26, Teramoto does not disclose, teach or even suggest all of the limitations of claim 26. Therefore, Teramoto does not render claim 26 obvious under 35 U.S.C. § 103(a).

Finally, there is no teaching or suggestion to make the combination of claim 26 in any of Ezaki, Kajit and/or Teramoto, and therefore a rejection of claim 26 under 35 U.S.C. § 103(a) over a combination of the cited art is thus unsupportable. That is, nothing within Ezaki, Kajita or Teramoto, or within the skill of the art at the time the invention was made, teaches or suggests combining any of the teachings of the cited references to arrive at Applicant's claim 26. It is only through impermissible hindsight reconstruction that any of the cited references could be combined to arrive at Applicant's claim 26. As stated above, the near infinite combinations of lie angle, club length and club weight, and the relationships thereof between adjacent clubs within a golf club set, attests to the non-obviousness of the relationship set forth in Applicant's claim 26. Further, beyond the lack of motivation to combine the references, the Applicant contends that, even if the references were combined, they would not result in the golf club set as presented in Applicant's claim 26, for the reasons set forth above.

Accordingly, the Applicant contends that claim 26 is allowable, as either being anticipated by, or obvious in light of, the cited references. As claim 26 is allowable, claims 27-39 are allowable by virtue of their dependence upon an allowable base claim, as well as their own respective merits.

Claim 40

The Applicant contends that new independent claim 40, and claims 21-53 that depend therefrom, are not anticipated by, or obvious in light of, Ezaki, Kajita and Teramoto. Claim 40 recites:

A set of golf clubs comprising a plurality of alternating sequential adjacent irons, wherein between any two alternating sequential adjacent irons of the set, a first alternating sequential adjacent iron has a club length of at least 1.2 inches longer than a second alternating sequential adjacent iron and the second alternating sequential adjacent iron has a lie angle of at least 1.2

degrees greater than the first alternating sequential adjacent iron and wherein the second alternating sequential adjacent iron has a club head weight at least 16 grams greater than the first alternating sequential adjacent iron.

Claim 40 requires that for a set of golf clubs, "a first alternating sequential adjacent iron has a club length of at least 1.2 inches longer than a second alternating sequential adjacent iron" while "the second alternating sequential adjacent iron has a lie angle of at least 1.2 degrees greater than the first alternating sequential adjacent iron" and while "the second alternating sequential adjacent iron has a club head weight at least 16 grams greater than the first alternating sequential adjacent iron." Claim 40 further requires that the relationship exists "between any two alternating sequential adjacent irons of the set."

Table 2 below compares Ezaki, Teramoto and Kajita with Applicant's claim 40:

(Continued on next page.)

Table 2: Claim 40 vs. Ezaki, Teramoto and Kajita

	Parameters as Between Irons						
	1-3	2-4	3-5	4-6	5-7	6-8	7-9
Club Length Decrease (In sequential order)							
Teramoto 1	**1 in**	**1.17 in**	**0.33 in**	1.33 in	2.17 in	**1 in**	**1 in**
Teramoto 2	**1 in**	1.5 in	1.5 in	1.25 in	**1 in**	**1 in**	**1 in**
Teramoto 3	1.5 in	1.58 in	1.67 in	1.67 in	1.33 in	**1 in**	**1 in**
Ezaki	1.57 in	1.57 in	1.57 in	1.57 in	1.57 in	1.57 in	1.57 in
Kajita *	n/a	n/a	n/a	n/a	n/a	1.57 in	n/a
Claim 26	≥1.2 in	≥1.2 in	≥1.2 in	≥1.2 in	≥1.2 in	≥1.2 in	≥1.2 in
Lie Angle Increment							
Teramoto	Not Specified						
Ezaki	1.5°	**1°**	**1°**	**1°**	**1°**	**1°**	1.5°
Kajita *	Not Specified						
Claim 26	> 1.2°	> 1.2°	> 1.2°	> 1.2°	> 1.2°	> 1.2°	> 1.2°
Head Weight Increment							
Teramoto	Not Specified						
Ezaki	**14 g**	**14 g**	18 g	19.5 g	16 g	16 g	19 g
Kajita	n/a	n/a	n/a	n/a	n/a	**14 g**	n/a
Claim 26	≥16 g	≥16 g	≥16 g	≥16 g	≥16 g	≥16 g	≥16 g

Table 2 above includes the teaching of Teramoto, and Kajita. The entries in Table 2 for Ezaki are based on the disclosure of Ezaki at the Table illustrated at cols. 5-6, lines 5-12. The entries in Table 2 for Kajita are based on the disclosure of Kajita at Table I, col. 2, lines 55-65, col. 5, lines 5-12 (Kajita *), and col. 3, lines 35-39. The entries in Table 1 for Teramoto are based on the disclosure of Teramoto at Table, col. 4, lines 38-50.

As to Ezaki, it can clearly be observed from the comparison provided in Table 2 that Ezaki never discloses, teaches, or suggests a set of irons wherein the requirements of claim 40 for club length, lie angle and head weight relationships all exist "between any two alternating sequential adjacent numbered irons of the set." In fact, not only does Ezaki not teach all the limitations of claim 40, but Ezaki specifically

discloses a completely different relationship for club head weight and lie angle between sequential adjacent irons.

As can be seen from Table 2 above, claim 40 requires that "between any two alternating sequential adjacent irons of the set" "a first alternating sequential adjacent iron has a club length of at least 1.2 inches longer than a second alternating sequential adjacent iron" while "the second alternating sequential adjacent iron has a lie angle of at least 1.2 degrees greater than the first alternating sequential adjacent iron" and while "the second alternating sequential adjacent iron has a club head weight at least 16 grams greater than the first alternating sequential adjacent iron", which is not disclosed by Ezaki. In fact, Ezaki teaches a different head weight and lie angle relationship as between any two adjacent irons than that required by claim 40.

As identified in **bold** in Table 2, Ezaki specifically discloses that between irons 1-3 and 2-4, the club head weight difference is **less** than that required by claim 40. Additionally, as identified in **bold** in Table 2, Ezaki teaches a different lie angle relationship as between *any* two alternating sequential adjacent irons. Ezaki specifically discloses that between irons 2-4, 3-5, 4-6, 5-7, and 6-8, the lie angle difference is **less** than that required by claim 40. Therefore, it is impossible, based on the disclosure of Ezaki, to provide both "a lie angle of at least 1.2 degrees" *and* "a club head weight at least 16 grams greater" as "between *any* two alternating sequential adjacent irons of the set."

Accordingly, the Applicant contends that claim 40, and claims 41-53 which depend therefrom, recite novel limitations not found within Ezaki, and therefore that Ezaki cannot anticipate Claim 40. Furthermore, for the reasons stated above with reference to claim 40, Ezaki does not disclose, teach or even suggest all of the limitations of claim 40. Therefore, Ezaki does not (by itself) render claim 40 obvious under 35 U.S.C. § 103(a).

Similarly, Kajita fails to disclose, teach or suggest a set of irons where the above requirements of claim 40 for club length, lie angle and head weight relationships exist "between any two alternating sequential adjacent irons of the set." In fact, not only does Kajita not disclose all the limitations of claim 40, but Kajita specifically discloses a completely different relationship for club head weight between alternating sequential adjacent irons, and also fails to disclose any relationship for lie angle

whatsoever. Furthermore, Kajita at Table I, col. 5, lines 5-1 and at Table I, col. 2, lines 55-65 describes a set of golf clubs where the first three clubs are woods, not irons, which is very different from claim 40, which requires the set of clubs to be "a set of irons."

As recited above, claim 40 requires that "between any two alternating sequential adjacent irons of the set," a "second alternating sequential adjacent iron has a club head weight at least 16 grams greater than [a] first alternating sequential adjacent iron," and "the second alternating sequential adjacent iron has a lie angle of at least 1.2 degrees greater than the first alternating sequential adjacent iron."

As identified in **bold** in Table 2, Kajita specifically discloses that between clubs 1-3, 3-5 and 6-8, the club head weight difference is **less** than that required by claim 40. Furthermore, Kajita fails to disclose any required relationship as to a difference in lie angle between any two adjacent clubs let alone that between any two alternating sequential adjacent irons of the set," "the second alternating sequential adjacent iron has a lie angle of at least 1.2 degrees greater than the first alternating sequential adjacent iron." Therefore, it is impossible, based on the disclosure of Kajita, to provide both "a lie angle of at least 1.2 degrees" *and* "a club head weight at least 16 grams greater" as "between *any* two alternating sequential adjacent irons of the set."

Accordingly, the Applicant contends that claim 40, and claims 27-39 which depend therefrom, recite novel limitations not found within Kajita and therefore that Kajita cannot anticipate Claim 40. Furthermore, for the reasons stated above with reference to claim 40, Kajita does not disclose, teach or even suggest all of the limitations of claim 40. Therefore, Kajita does not render claim 40 obvious under 35 U.S.C. § 103(a).

Teramoto also fails to disclose, teach or suggest a set of irons where the above requirements for club length, lie angle and head weight relationships exist "between any two adjacent consecutively numbered irons of the set." In fact, not only does Teramato not teach all the limitations of claim 40, but Teramoto specifically discloses a different relationship for club length between alternating sequential adjacent irons and, as discussed above never discloses lie angle or head weight whatsoever.

Again, as recited above, claim 40 requires that "between any two alternating sequential adjacent irons of the set," "a first alternating sequential adjacent iron has

a club length of at least 1.2 inches longer than a second alternating sequential adjacent iron" while "the second alternating sequential adjacent iron has a lie angle of at least 1.2 degrees greater than the first alternating sequential adjacent iron" and while "the second alternating sequential adjacent iron has a club head weight at least 16 grams greater than the first alternating sequential adjacent iron," which is not disclosed by Teramoto. Furthermore, Teramoto teaches a different club length relationship as between any two alternating sequential adjacent irons than the relationship required by claim 40.

As shown in **bold** in Table 2, Teramoto specifically discloses in a first embodiment that as between clubs 1-3, 2-4, 3-5, 6-8 and 7-9 the club length difference is <u>less</u> than that required by claim 40. In a second embodiment, Teramoto discloses that as between clubs 1-3, 5-7, 6-8 and 7-9 the club length difference is <u>less</u> than that required by claim 40. In a third embodiment, Teramoto discloses that as between clubs 6-8 and 7-9 the club length difference is <u>less</u> than that required by claim 40. Therefore, as illustrated in Table 2, none of Teramoto's three embodiments disclose that "between any two alternating sequential adjacent irons of the set," "a first alternating sequential adjacent iron has a club length of at least 1.2 inches longer than a second alternating sequential adjacent iron" and "the second alternating sequential adjacent iron has a lie angle of at least 1.2 degrees greater than the first alternating sequential adjacent iron" and "the second alternating sequential adjacent iron has a club head weight at least 16 grams greater than the first alternating sequential adjacent iron," as required by claim 40.

It is therefore impossible, based upon the disclosure of Teramoto, to provide as "between any two alternating sequential adjacent irons of the set," "a first alternating sequential adjacent iron has a club length of at least 1.2 inches longer than a second alternating sequential adjacent iron" and either the limitation that "the second alternating sequential adjacent iron has a lie angle of at least 1.2 degrees greater than the first alternating sequential adjacent iron" and "the second alternating sequential adjacent iron has a club head weight at least 16 grams greater than the first alternating sequential adjacent iron."

A 35 U.S.C. § 102 rejection of claim 40 is thus unsupportable in view of the requirements for such a rejection as described above. Furthermore, for the reasons

stated above with reference to claim 40, Teramoto does not disclose, teach or even suggest all of the limitations of claim 40. Therefore, Teramoto does not render claim 26 obvious under 35 U.S.C. § 103(a).

Finally, there is no teaching or suggestion to make the combination of claim 40 in any of Ezaki, Kajit and/or Teramoto, and therefore a rejection of claim 40 under 35 U.S.C. § 103(a) over a combination of the cited art is thus unsupportable. That is, nothing within Ezaki, Kajita or Teramoto, or within the skill of the art at the time the invention was made, teaches or suggests combining any of the teachings of the cited references to arrive at Applicant's claim 40. It is only through impermissible hindsight reconstruction that any of the cited references could be combined to arrive at Applicant's claim 40. As stated above, the near infinite combinations of lie angle, club length and club weight, and the relationships thereof between adjacent clubs within a golf club set, attests to the non-obviousness of the relationship set forth in Applicant's claim 40. Further, beyond the lack of motivation to combine the references, the Applicant contends that, even if the references were combined, they would not result in the golf club set as presented in Applicant's claim 40, for the reasons set forth above.

Thus, the Applicant contends that claim 40 is allowable. As claim 40 is allowable, claims 41-53 are allowable by virtue of their dependence upon an allowable base claim, as well as their own respective merits.

Claim 54

The Applicant contends that new independent claim 54, and claims 55-65 that depend therefrom, are not anticipated by, or rendered obvious in light of, Ezaki, Kajita and/or Teramoto, either individually or in combination. Claim 54 recites:

> A matched set of golf clubs comprising:
> a plurality of golf clubs comprising at least three clubs wherein each club is defined by a club number, a shaft length, a lie angle and a club head weight and wherein the plurality includes a first club;
> wherein the first club is defined by a first shaft length, a first lie angle and a first club head weight; and

wherein the shaft length, lie angle and club head weight of any club in the set subsequent to the first club is determinable by calculating the absolute value of the difference between the first club number and a subsequent club number and then multiplying the calculated difference by a lie angle constant, a head weight constant and a shaft length constant, and then adding the corresponding products to the first shaft length, the first lie angle and the first club head weight when the subsequent club number is greater than the first club length, and subtracting corresponding products from the first shaft length the first lie angle and the first club head weight when the subsequent club number is less than the first club length.

As discussed above with respect to claims 26 and 40, Ezaki, Kajita and Teramoto all fail to disclose, teach or suggest a set of irons where a requirement for club length, lie angle and head weight relationships all exist simultaneously between any two alternating or sequential adjacent irons of a set.

Ezaki, Kajita or Teramoto also fail to disclose, teach or suggest a matched set of golf clubs comprising at least three golf clubs, having club length, lie angle and head weight relationships such that "the shaft length, lie angle and club head weight of any club in the set subsequent to the first club is determinable by calculating the absolute value of the difference between [a] first club number and a subsequent club number and then multiplying the calculated difference by a lie angle constant, a head weight constant and a shaft length constant, and then adding the corresponding products to the first shaft length, the first lie angle and the first club head weight when the subsequent club number is greater than the first club length, and subtracting corresponding products from the first shaft length the first lie angle and the first club head weight when the subsequent club number is less than the first club length", as required by Applicant's claim 54.

In still another illustration, please refer to the Tables 3-5 below based on claim 54:

(Continued on next page.)

Table 3: Claim 54 with exemplary constants

Sequential adjacent clubs	Head Weight Constant	Lie Angle Constant	Shaft Length Constant
1-2	≥8 g	> .6°	≥0.6 in
2-3			
3-4			
4-5			
5-6			
6-7			
7-8			
8-9			

Referencing Table 3 above, a constant value for head weight, lie angle and shaft length is observed between any two sequential adjacent club combinations for clubs 1-9 using the constant ranges of claim 26 for illustration. According to claim 54, for each two club combination the head weight, lie angle and shaft length differentials are concurrently linear.

Another illustration is provided in Table 4 below:

Table 4: Claim 54 with exemplary constants

Alternating adjacent clubs	Head Weight Constant	Lie Angle Constant	Shaft Length Constant
1-3	≥16 g	> 1.2°	≥1.2 in
2-4			
3-5			
4-6			
5-7			
6-8			
7-9			

Now referencing Table 4 above, a constant value for head weight, lie angle and shaft length is observed between any alternating adjacent club combinations for clubs 1-9 using the constant ranges of claim 40 for illustration. According to claim 54, for every two alternating adjacent club combination the head weight, lie angle and shaft length differentials are concurrently linear.

Yet another illustration is provided in Table 5 below:

Table 5: Claim 54 with exemplary constants

As Between Clubs	Head Weight Constant	Lie Angle Constant	Shaft Length Constant
1-4			
2-5			
3-6			
4-7	≥24 g	> 1.8°	≥1.8 in
5-8			
6-9			

As can be seen from Table 5 above, a constant value for head weight, lie angle and shaft length is observed between any third alternating adjacent club combination for clubs 1-9, with exemplary constants inferred from the ranges of claims 26 and 40 and the requirements of claim 54. According to claim 54, for every third alternating adjacent club combination the head weight, lie angle and shaft length differentials remain concurrently linear.

By extension, it can be seen from Tables 3-5 above, that according to claim 54, "the shaft length, lie angle and club head weight of any club in the set subsequent to the first club is determinable by calculating the absolute value of the difference between [a] first club number and a subsequent club number and then multiplying the calculated difference by a lie angle constant, a head weight constant and a shaft length constant, and then adding the corresponding products to the first shaft length, the first lie angle and the first club head weight when the subsequent club number is greater than the first club length, and subtracting corresponding products from the first shaft length the first lie angle and the first club." Therefore, according to claim 54, for every club combination there is a determinable concurrently linear differential for head weight, lie angle and shaft length.

A 35 U.S.C. § 102 rejection of claim 54 in light of the cited references is thus unsupportable in view of the requirements for such a rejection as described above. That is, Ezaki, Kajita and Teramoto all fail to disclose all of the limitations of claim 54. Additionally, a 35 U.S.C. § 103(a) over each of Ezaki, Kajita and/or Teramoto is also unsupportable since none of the references teach or suggest all of the limitations of claim 54. Finally, there is no teaching or suggestion to make the combination of claim

54 in any of Ezaki, Kajit and Teramoto, and therefore a rejection of claim 54 under 35 U.S.C. § 103(a) over a combination of the cited art is also unsupportable. That is, nothing within Ezaki, Kajita or Teramoto, or within the skill of the art at the time the invention was made, teaches or suggests combining any of the teachings of the cited references to arrive at Applicant's claim 54. It is only through impermissible hindsight reconstruction that any of the cited references could be combined to arrive at Applicant's claim 54. As stated above, the near infinite combinations of lie angle, club length and club weight, and the relationships thereof between adjacent clubs within a golf club set, attests to the non-obviousness of the relationship set forth in Applicant's claim 54. Further, beyond the lack of motivation to combine the references, the Applicant contends that, even if the references were combined, they would not result in the golf club set as presented in Applicant's claim 54, for the reasons set forth above.

Thus, the Applicant contends that claim 54 is allowable for at least the reasons cited above with reference to claims 26 and 40 and the reasons discussed above. As claim 54 is allowable, claims 55-65 are allowable by virtue of their dependence upon an allowable base claim, as well as their own respective merits.

Fees for Additional Claims

The fee for fifteen (15) additional total claims is to be charged to the Applicant's deposit account, as indicated on the attached Transmittal letter.

Request for Extension of Time

The Applicant hereby requests a one (1) month extension of time under 37 C.F.R. §1.136 to file this response to the Office action, to and through October 15, 2004. The extension fee under 37 C.F.R. § 1.17(a)(3) is enclosed herewith.
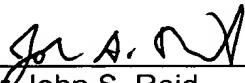
(Continued on next page.)

Summary

The Applicant believes that the above response is a complete response to the Office action of June 15, 2004, and therefore requests timely allowance of the claims.

Respectfully submitted,

Randy Henry, Applicant

October 15, 2004

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